

λ = wavelength
Lam da

λ is inversely proportional
to the f

$\lambda \uparrow f \downarrow$

$f \uparrow \lambda \downarrow$

f is proportional
to the ENERGY

$f \uparrow E \uparrow$
 $f \downarrow E \downarrow$

radio

cell phones

wifi

blue tooth

Am - Amplitude modulation

Fm - Frequency modulation

RADAR

microwaves

heat food

cell phones

infrared (IR)

Register body heat

TV Remotes

Visible light

3% of the EM Field

Ultraviolet
Suburn

X ray

Dentists & Doctors } to see our
bones or
teeth

Gamma Ray
medical use

$$3.07 \times 10^{\textcircled{2}}$$

RADIO $10^4 - 10^{-1}$

$$8.43 \times 10^{-9}$$

UV $4 \times 10^{-7} - 10^{-10}$

$$2.93 \times 10^{-13}$$

GAMMA $< 10^{-12}$

$$3.22 \times 10^{-2}$$

microwaves $10^{-1} - 10^{-3}$

$$8.37 \times 10^{-11}$$

X-RAY $10^{-10} - 10^{-12}$